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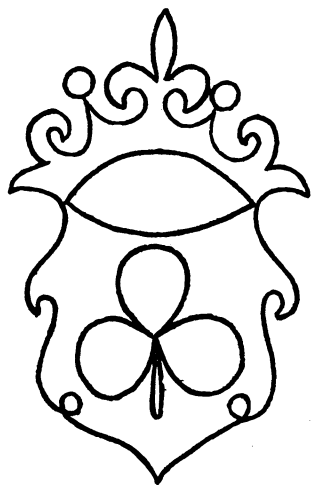
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PENSILVANIA

WR

FAC-SIMILE OF THE WATERMARK OF RITTENHOUSE PAPER MILL.

HISTORICAL SKETCH OF THE RITTENHOUSE PAPER-MILL; THE FIRST ERECTED IN AMERICA, A.D. 1690.

BY THE LATE HORATIO GATES JONES.

[Read before the Historical Society of Pennsylvania, May 11, 1863.]

The fabric called paper has acquired such an importance in almost every business transaction in which men engage, that the history of its early manufacture in America ought to prove of interest to those who study the progress of events and the development of our national resources and our national character. As a discovery the art of paper-making certainly ranks next in importance to the invention of printing, and by some it is regarded as even more important, for without cheap paper the printing-press would be of little use.

So rapid has been the progress in the art of paper-making that at the present time we can read our newspapers printed upon paper made from straw¹ and even common white wood.² The ordinary American poplar-tree, which is so much admired for its stateliness among the trees of the forest, can be converted into good white paper in the short space of eighteen hours. But it is not my purpose to describe either the process or the progress of paper-making; mine is a far more humble duty, and relates chiefly to the history of a single mill.

Until within a few years the general impression has been, and the idea is propagated even now, that paper-making in America had its origin on Chester Creek in Delaware County, Pennsylvania, in the year 1714, and that Thomas Willcox was the first paper-maker. This statement has

¹ The *Public Ledger*, of Philadelphia, has been printed on straw paper since May, 1854.

² The *New York Examiner* of March 19, 1863, was issued upon paper made of eighty per cent. of wood.

been repeated so often that even standard writers have incorporated it into their works. The second mill has been assigned to Elizabethtown, New Jersey, and 1728 is given as the probable year of its construction.

As to the Willcox mill, although entitled to consideration from having supplied Franklin with paper at an early date, and from having been the first mill in America to manufacture bank-note paper, yet, instead of being the first, I believe it was the fourth or fifth mill in point of age. Dr. George Smith, in his recent "History of Delaware County, Pennsylvania," says that the old Ivy Mill of Willcox was not erected until the year 1729, or very shortly afterwards; and he adds that it was "the *second place* at which paper was manufactured in Pennsylvania." This latter statement is far from being correct.

From the year 1690 until 1710 there was but one paper-mill in the American Colonies. Of this mill, which I claim the privilege of designating from its founders THE RITTENHOUSE PAPER-MILL, I shall now proceed to give as detailed a sketch as the materials in my possession will enable me to do; and as the history of this mill forms an important item in the early history of our State, I shall make no apology for the minuteness of my details.

The next writer who has referred to paper-making in America is Richard Frame, one of the early settlers of Philadelphia, who wrote a poem entitled "A short Description of Pensilvania: or A Relation of what Things are Known, Enjoyed and like to be Discovered in said Province." It was printed at Philadelphia in 1692 by William Bradford.¹ The homeliness of the metre is more than counterbalanced by the important facts which it reveals. After giving the names of the most prominent towns,—placing Germantown next to Philadelphia,—he devotes twenty-six lines to the paper-mill, as follows:

¹ I am indebted to Mr. John William Wallace for a copy of Frame's poem. It was reprinted in the Philadelphia *Sunday Dispatch* in November, 1862.

“The German-Town, of which I spoke before,
Which is, at least in length one Mile or more,
Where lives High-German People, and Low-Dutch,
Whose Trade in weaving Linen Cloth is much.
There grows the Flax, as also you may know,
That from the same they do divide the Tow;
Their trade fits well within this Habitation,
We find Convenience for their Occasion.
One Trade brings in imployment for another,
So that we may suppose each Trade a Brother;
From Linen Rags good Paper doth derive,
The first Trade keeps the second Trade alive;
Without the first, the second cannot be,
Therefore since these two can so well agree,
Convenience doth appear to place them nigh,
One in *German-Town*, t’other hard by.
A Paper-Mill near *German-Town* doth stand,
So that the Flax, which first springs from the Land,
First Flax, then Yarn, and then they must begin
To weave the same, which they took pains to spin.
Also, when on our backs it is well worn,
Some of the same remains Ragged and Torn;
Then of the Rags our Paper it is made,
Which in process of time dost waste and fade:
So, what comes from the Earth, appeareth plain,
The same in Time, returns to Earth again.”

In the year 1696, another Philadelphia writer,—John Holme,¹—who was one of the magistrates of the city, and sat upon the bench when William Bradford was tried for publishing George Keith’s pamphlet, also wrote a poem, longer, and possessing much more merit than Frame’s, and full of quaint hits at the various questions of the day, and containing likewise a full description of the country, its inhabitants, customs, and the products of the land. It is styled “A True Relation of the Flourishing State of Pen-

¹ Judge Holme came to Philadelphia from England in the year 1686, and was one of the constituent members of the first Baptist church in that city. He married the widow of the Hon. Nicholas More, who was the first Chief-Justice of Pennsylvania. Judge Holme subsequently settled in Salem, New Jersey, was one of the judges of Salem Court, and died there. His descendants are quite numerous, and reside in New Jersey and Pennsylvania.

sylvania." This poem was not printed until 1847.¹ The reference to the paper-mill is as follows :

"Printer.

"Here dwelt a printer and I find
That he can both print books and bind ;
He wants not paper, ink nor skill
He's owner of a paper mill.
The paper mill is here hard by
And makes good paper frequently,
But the printer, as I do here tell,
Is gone into New York to dwell.
No doubt but he will lay up bags
If he can get good store of rags.
Kind friend, when thy old shift is rent
Let it to th' paper mill be sent."

Again, in 1697, Gabriel Thomas, after his return to England, wrote and published a description of Pennsylvania,² in which he says, "All sorts of very Good *Paper* are made in the German-Town as also very fine *German Linen* such as no Person of Quality need be ashamed to wear."

By the term "the German-Town" was meant Roxborough as well as Germantown proper, for at that early day the territory comprising the present Roxborough, although divided into plantations, had received no particular name; and as the settlers of both places were Germans and Hollanders, the name of "German-Town" was very appropriate.

All of these writers refer to one and the same establishment,—the Rittenhouse Paper-Mill. The printer mentioned by Holme was William Bradford, and his true connection with the mill will be shortly explained.

In a beautiful and secluded valley in that part of the County of Philadelphia known as Roxborough there is a

¹ It was printed in the Bulletin of the Historical Society of Pennsylvania (1847), Vol. I., No. 13, p. 72.

² "An Historical and Geographical Account of the Province and Country of Pensilvania," etc. By Gabriel Thomas, who resided there about fifteen years. London, 1698.

rivulet called *Paper-Mill Run*, which empties into the *Wissahickon* Creek about two miles above its junction with the river *Schuylkill*. This rivulet, after crossing "Township Line Road," above the present Rittenhouse Street, passes through a small meadow near the well-known "McKinney Stone Quarry." In that meadow, and on the banks of this rivulet, the first paper-mill in America was erected in the year 1690. The founder was a Hollander named *WILLIAM RÏTTINGHUISEN*, now anglicized into *RITTENHOUSE*. He was born in the Principality of *Broich* in the year 1644. His ancestors had been engaged for generations in paper-making, and he had learned the same business. It has been stated that he and a brother originally came to New York while it was a Dutch colony; that the brother settled in New Jersey, but William, with his sons *Claus* or *Nicholas* and *Garrett* or *Gerhard*, came to Pennsylvania about the year 1690. When Mr. Barton, author of "*Memoirs of David Rittenhouse*," was in Amsterdam in 1778, he met a venerable man of eighty-five years named *Adrian Rittinghuysen*, who said that his father's name was *Nicholas*; that he had been a paper-maker in that city; that his father's brother *William* went with his family to North America, where he some time afterwards, as he had understood, established the paper-mill near *Germantown*.¹ My own belief is that *William Rittenhouse* and his sons were in Pennsylvania a couple of years prior to 1690. Certain it is that they did not settle in New York while it was a Dutch colony, which it ceased to be in 1674, for a German certificate, still preserved among the family papers, dated July 25, 1678, states that "*Wilhelm Rittinghaussen*" was then a resident of Amsterdam; and a Low Dutch document, dated June 23, 1679, certifies that on that day "*Willem Riddinghuysen* papermaker," had taken the citizen's oath at Amsterdam. Besides, on *Zimmerman's Plan of Germantown* Lots the names of all the "early Proprietors" are given, and among them appear those of *William* and *Claus Ritten-*

¹ Barton's "*Memoirs of David Rittenhouse*," p. 80.

house. Again, on the 7th of May, 1691, Thomas Lloyd, Deputy Governor, granted naturalization to "sixty-four of the first Germantown Inhabitants," as they were styled, and the names of the Rittenhouses are included in the list.

These facts, therefore, show conclusively that the Rittenhouses were among the early settlers of Germantown, but the precise year of their arrival either in Germantown or America is unknown. Their stay in New York was doubtless very brief; for although they found there a people who spoke their own language, yet there was no market for paper. In Philadelphia, however, there was a printer,—the justly celebrated William Bradford,—and it is not at all improbable that through his influence they were induced to settle in Pennsylvania. But it may be that while in Holland they had heard of William Penn and his new Commonwealth, and had seen the circulars of The Society of Free Traders, or of The Frankfort Land Company, the agent of which—Francis Daniel Pastorius—was the chief settler and personage of Germantown, where the Rittenhouses first settled.

As stated before, the paper-mill was erected in the year 1690, and this fact, about which until recently so little appears to have been known, I am able to substantiate through the kind assistance of Mr. Nicholas Rittenhouse, of Roxborough, a lineal descendant of the first paper-maker, and who within a short time has furnished me not only the original deed for the mill property, but many other valuable manuscripts.

Thus, after a lapse of one hundred and seventy-three years, and after numerous errors on the subject of early paper-making in America have been perpetuated in standard works even during the past year, I am enabled to present to this Society the most reliable evidence, giving to the Rittenhouse Paper-Mill the position it is entitled to hold as the pioneer paper-mill in America.

The deed to which I have referred bears date "the Ninth day of the Twelfth month called Ffebruary, In the ffourth year of the Reign of Queen Ann," 1705/6. The

grantor is Samuel Carpenter, of Philadelphia, and the grantee is William Rittenhouse, of Germantown. The recitals in the deed are as follows: "Whereas In the year of our Lord, One thousand Six hundred and Ninety, It was agreed Between the said Samuel Carpenter of the one part, And Robert Turner, William Bradford, Thomas Tresse and the said William Rittenhouse in behalf of themselves and others that undertook to build a Paper Mill upon the Land hereafter mentioned of the other part, That the said Samuel Carpenter should Demise unto the said Robert Turner, William Bradford, Thomas Tresse, William Rittenhouse and the rest of the Company or Persons concerned as aforesaid, all that Tract of Land whereon the said Paper Mill was to be erected, Containing Twenty acres, To hold them to their Executors and Assigns for the Term of Nine hundred and ninety Years, Paying unto the said Samuel Carpenter his Heirs or Assigns the Rent of five Shillings Sterling on the Twenty ninth day of September yearly during the sd Term. And Whereas the said Paper Mill was afterwards built but no Lease actually signed or executed according to the said Agreement; And Whereas Ffrancis Rawle Administrator of the Estate of the said Robert Turner, As also the said William Bradford, Thomas Tresse and the rest of the Persons concerned in the said Paper Mill, Assigned all their right and Interest therein to the said William Rittenhouse, Now this Indenture Witnesseth that the said Samuel Carpenter As well for the Consideration of the Rent and Covenants hereinafter mentioned and reserved As also for divers other good causes and considerations him moving, hath demised, Granted, Lett and to ffarm letten And by these presents Doth Demise, Grant, Lett and to ffarm lett unto the said William Rittenhouse All that Paper-Mill scituate in the said County of Philadelphia, And all that Tract of Land whereon the same stands, Beginning at a Spruce Tree near Wessehickon Creek. Then North East One hundred and Ten perches by Thomas Jaques Land to a Corner post; Then North West by German-Town Land Thirty five perches to a Corner post; Then South West by

Thomas Master's Land Ninety four perches to a post by the said Wessehickon Creek; Then down the severall Courses of the same Creek to the place of beginning, Layd out for Twenty Acres being part of One hundred acres sold and Conveyed by William Harwood to the said Samuel Carpenter and his Heirs and Assigns forever by a Deed of ffeoffment duly executed under the Hand and Seal of the said William Harwood dated the Seventh day of the ffourth Month 1693 Acknowledged in Court at Philadelphia the Sixth day of December 1693."

The lease was for the term of nine hundred and seventy-five years from the 29th of September 1705, and the rent reserved was five shillings sterling per annum.

It thus appears that there was at first a company regularly organized to establish the paper-mill, composed of some of the most wealthy and influential men of Philadelphia. Samuel Carpenter and Robert Turner were extensive landholders, and were the advisers and coadjutors of William Penn; Thomas Tresse was a rich ironmonger; and William Bradford was the famous printer who established the first printing-press in the middle colonies of America. This was in the year 1685, only *three* years after our ancestors had landed in the wilderness, and, as I am inclined to believe, the year of his arrival in Pennsylvania. The chief and most important member of the company was William Rittenhouse.

What led to a dissolution of the company, or when it occurred, does not appear, but it is evident that for some time prior to 1705 William Rittenhouse had become the sole proprietor of the establishment. As he was the practical man, it is quite probable that during the existence of the company the mill was under his entire control, and was managed by him and his son Claus, who subsequently became a partner with his father and Bradford, and in the end acquired the sole ownership of the mill. The papers I have examined seem to indicate that towards the last of the partnership it consisted of Robert Turner, Thomas Tresse, William Bradford, and William Rittenhouse, each owning

a fourth part, and that finally Claus Rittenhouse purchased the shares of Turner, Tresse, and Bradford. I am inclined to believe that he secured Turner's share in 1697, Tresse's about the year 1701 or 1702, and Bradford's in 1704.

As all are aware, Bradford offended the ruling powers,—first, for printing the charter, as was alleged, without leave, and then for printing a pamphlet of George Keith, a seceding Scotch Quaker. At this distance of time we cannot but applaud his independent spirit and his noble defence when arraigned in court. In 1693 he left Philadelphia and went to New York City, where he established the first press in that province.¹ But he still retained his interest in the paper-mill, and depended upon it for his supply of printing-paper. However, his distant abode induced him in 1697 to rent his share of the mill to the Rittenhouses,—father and son. The original lease is still preserved, and I shall give it verbatim as an interesting relic, written by Bradford himself on paper made at this mill, and having the water-mark W R, the initials of the maker's name. It is in the following words :

“Know all men by these presents, That it is Covenanted & agreed as followeth by and between W^m Rittenhouse and Clause Rittenhouse of German Town Paper-makers on y^e one part and William Bradford of y^e City of New York, Printer on y^e other part, Witnesseth, That y^e said W^m Bradford having one fourth part of y^e said paper-mill near German Town, he y^e said W^m Bradford doth demise and to farm letten all yt his one fourth part of y^e s^d Paper-Mill and Land with all y^e appurtenances thereunto belonging for and during the full Term of Ten years from y^e first day of September in y^e year of our Lord 1697, with all y^e profits arising thereupon, For and in consideration whereof, it is Covenanted and agreed by [and] between the said Parties, That they the sd. W^m and Clause Rittenhouse shall pay and deliver to sd. William Bradford his Executors or assigns or their order in Philadelphia y^e full quantity of Seven Ream of printing paper, Two Ream of good writing paper and two Ream of blue paper, yearly and every year during y^e sd. Term of Ten years. It is further Covenanted by and between sd. parties, That y^e sd. W^m and Clause Rittenhouse, their Executors or Assigns shall keep

¹ On April 10, 1693, he established his press in New York; and in 1725 he established the first newspaper in New York.

up and maintain the sd. Mill in good Repair at their own proper Costs and Charges, during the sd. Term of Ten years as also leave y^e sd. Mill and Appurtenances in good Tenantable Repair. Also it is further Covenanted That during y^e sd. Ten years y^e sd. William and Clause Rittenhouse shall lett y^e said W^m Bradford his Executors or Assigns have y^e refusal of all y^e printing paper that they make and he shall take y^e same at Ten shillings pr. Ream, As also y^e sd. Bradford shall have y^e refusal of five Ream of writing paper and Thirty Ream of brown paper yearly and every year during y^e sd. Term of Ten years, y^e writing paper to be at 20^s and y^e brown paper at 6^s pr. Ream, to be delivered likewise to y^e order of W^m Bradford or his Executors or Assigns at Philadelphia. And if they sell sd. paper to others at a less price than above specified, the s^d William Bradford shall have what he takes abated to the same price. In and to y^e performance of these articles of agreement and every clause therein contained, they the said Clause and W^m Rittenhouse and W^m Bradford do bind and oblige themselves each to the other in the sum of Fifty pounds Current Money of y^e Province of Pennsylvania. In witness whereof the sd. parties have to these presents their hands and seals interchangeably set this 24th day of September in the year of our Lord 1697.

“Sealed and Delivered in y^e
presence of us
Jacob Cofing

“WILL. BRADFORD [SEAL.]

his
“JEREMIAH X OSBOURN.”
mark

It thus appears that Bradford was to receive for his share of the mill paper of the value of six pounds two shillings, equal to sixteen dollars and twenty-three cents of our present currency, and that he had the monopoly of the entire printing-paper that was made in America from September 1, 1697, until September 1, 1707. What the quantity was does not appear, nor is it possible to state with any degree of accuracy the capacity of the mill. All paper was then manufactured by hand, each sheet being made separately. At that early day and long afterwards the rags were pounded into pulp in stone or iron mortars by the aid of trip-hammers, and several days were required to produce a sample of dry finished paper. Formerly—before the introduction of machinery—a day’s work for three men was four and a half reams of newspaper of the size of

twenty by thirty inches; so that there might have been made annually at the Rittenhouse Mill from twelve hundred to fifteen hundred reams of paper of all kinds, but this is mere conjecture. Small as was its capacity, it was all-important to the community at large, for the home supply of Pennsylvania was dependent upon it; and, as we have just seen, the great commercial metropolis of America was once supplied with its printing-paper from this small mill.

There, in that secluded spot, far away from the abodes of any, except the mystic Hermits of the Ridge, who lived on the banks of the Wissahickon, and with no access to Philadelphia, except by Germantown, Rittenhouse and his son devoted themselves with untiring industry to their useful and honorable art. Like their staid and thrifty ancestors, they acquired a wide reputation for the production of the family staple,—good paper,—and to this they usually affixed a water-mark. I may here observe that the early paper-makers used a variety of devices or marks to distinguish their papers. The water-mark is produced by wires bent to the shape of the letters or device required, and sewed to the surface of the mould, its effect being to make the paper thinner in those places.

Many kinds of paper received their names from these marks, and although the devices are disused, the paper still retains the name,—*e.g.*, the name *foolscap* paper was derived from the device of a head with a *fool's cap and bells*; while *post* paper was so called from having the mark of a *horn*, which the *post-boy* usually carried and blew to announce his arrival. Neither has any such mark now. The first water-mark adopted by the Rittenhouses was the word *Company*, designating the original partnership, to which I have alluded. The next mark used was the letters WR—the initials of the founder—on one-half of the sheet, and on the other half a *clover-leaf* in a shield surmounted by a kind of crown, while beneath was the word *Pensilvania*. I have given traced specimens of these water-marks of the original size on the paper itself in the front of this sketch. The clover-grass, or *Klee-Blatt*, used by Rittenhouse as part of this de-

vice was, according to Francis Daniel Pastorius, the common town mark or seal of Germantown, near which the mill was situated.

The next mark used was K. R., the initials of his son Claus, which in Dutch was often spelled *Klaas*. I have seen it both on writing- and printing-paper. The only other Rittenhouse mark that I have seen was I. R., which meant Jacob Rittenhouse, a great-grandson of the founder.

The Rittenhouses continued in active business at their mill until the year 1700 or 1701, when a great misfortune overtook the honest proprietors. The little stream on which they relied for their water-power proved in one of those years fatal to their establishment, for a freshet occurred and swept away the mill and its entire contents. But, nothing daunted, and like stout-hearted men as they were, we find that soon after they resolved to repair their loss and begin anew. This sad event happened during the last visit of William Penn to America, and the facts are related by Mr. Barton, as follows:¹

“There is now before the writer of these Memoirs a paper in the handwriting of the celebrated William Penn and subscribed with his name, certifying that ‘William Rittinghousen and Claus his son,’ then ‘part owners of the Paper-Mill near Germantown,’ had recently sustained a very great loss by a violent and sudden flood, which carried away the said mill, with a considerable quantity of paper, materials and tools, with other things therein, whereby they were reduced to great distress; and, therefore recommending to such persons as should be disposed to lend them aid, to give the sufferers, ‘relief and encouragement, in their needful and commendable employment,’ as they were ‘desirous to set up the paper-mill again.’ . . . In Mr. Penn’s certificate, William Rittinghousen is called an old man, and is stated to have then been ‘decrepit.’”

This recommendation of Penn is without date, and the original certificate has disappeared. As a friend of honest

¹ Barton’s “Memoirs of David Rittenhouse,” pp. 83, 84.

industry and the promoter of every trade which could advance the material prosperity of his Commonwealth, he was naturally desirous to see this establishment in particular rebuilt, and there were kind friends who nobly responded to his call. Having chosen another site a short distance below the first mill, a new structure was erected in the year 1702, much more substantial than the first.

Although Bradford still retained his share of the mill, it does not appear that he contributed towards its reconstruction. Very naturally, the Rittenhouses now wished to secure the entire ownership, and having bought the share of Tresse, they opened a correspondence with Bradford on the subject of his share of the mill. At first Bradford agreed to do as others did, in the settlement of his claim against the Rittenhouses, and upon this understanding they proceeded to rebuild the mill; but afterwards he made a different proposal. What it was I cannot conjecture, unless it was a renewal of his paper monopoly. Whatever it was, the Rittenhouses declined to accede to it. The following letter from Claus Rittenhouse to William Bradford best explains the transaction, and forms an interesting feature in the history of the mill.

"PHILADELPHIA the 12th 5th Mo 1703.

"LO. FRIEND

"WM BRADFORD—

"I have yours directed to Samuel Carpenter dated the 22^d Aprill last which my father & I have Read, & considered yr. severall proposalls, which being different from ye first Lett^r, wherein you condescended to doo as others did, and thereupon gave us Encouragement to proceed in Rebuilding the Paper Mill. Wee therefore hope & earnestly intreat yr. ffay^r to take yr share of the materialls saved and the arrears of Rent due and thereupon discharge us as Thomas Tresse hath done and hath given us a full discharge and Release of all Right and Claim to the s^d Paper Mill, wee being to pay the arrears of Chiefe Rent, upon which wee gave him our bond to pay him what wee owe him. Part of what wee owe thee is already paid in paper & the rest shall be pd. to yr. content. And as for furnishing you with paper from time to time, as wee reckon ourselves obliged in duty for yr. kindnesses, so wee intend to serve yr. occasions to our ability, but considering this Country may want paper and severall here have been so kind as to assist us in ye Rebuilding the paper mill, wee dare not engage ourselves by any Contract or bond to

any particulars, least it may not be in our power to comply without disappointing or disobliging the rest of our friends; So yt wee desire you only to depend upon us for serving you with paper the best wee can—which wee shall do to the utmost, and yr. favorable answer to our Request; for you are partly sensible of our Condition yt wee are not able to comply with those proposalls in yr. Lettr. to Sam. Carpenter. I also rec^d yrs. of 13th June wherein you desire some paste board, such as I used to make for you, viz, the two thicker sorts which may be ready to be delivered to Nich^s Pearse in about two weeks, viz 40 or 50lb. Inclosed is an account of what wee have saved and used belonging to the former mill, being £15.2.4. Yr part is 3.15.7^d to which adding the Rent due being About or near $\frac{3}{4}$ of year at £6. pr. year is 4.10. make the whole £8.5.7d.

“I conclude with Kind Respects & subscribe In behalf of my ffather and myself—

“Yr. friend

“CLAUS RÏTTINGHOUSEN.”

Appended to the letter is “An Account of the materials of the old Paper Mill which were used in the new Mill,” viz.:

The plates for the house 160 feet, 6 by 8 inches at 3 ^d pr. foot	£ 2. 0.0.
147 foot of Scantling 3 × 4 inches at 1 ^d pr. foot	12.3.
36 foot 5 × 7 inches at 2 ^d pr. foot	6.
80 foot 3 × 4 inches at 1 ^d pr. foot	6.8.
205 foot of boards at	16.5.
205 foot of Scantling 3 × 4 at 1 ^d pr. foot	17.
1 Axle tree or Shaft for the Wheel	1. 0.0.
Some water troughs	10.
The Presse	5. 0.0.
252 lbs of Iron at 6 ^d pr. lb.	6. 6.
	£17.14.4.
The charge of taking up the Presse & getting it home	2.
& for taking up & bringing to the Mill, the other things	.12
	2.12.
	£15. 2.4.

The sum total of what was saved from the wreck amounted in our money to forty dollars and twenty-one cents.

It was not until June 30, 1704, that Bradford was induced to part with his share of the mill. Two years afterwards William Rittenhouse secured the land on a lease for nine hundred and seventy-five years, and subsequently his son Claus became the owner of the fee. From that time until this day the paper-mill property has been in possession of persons bearing the name of Rittenhouse, but the mill itself, having been renewed at least four times, has been converted into a cotton factory.

The elder Rittenhouse, the founder, having lived to see his mill in a flourishing condition, gave his share in it to his son Claus shortly before his own death. He died in the year 1708, aged about sixty-four years, and it is probable that he was buried in the burial-ground of the Mennonists in Germantown, of which church he and his son Claus were not only members, but ministers.

Mr. Rittenhouse had but three children who survived him or who left issue,—viz., Nicholas, who married Wilhelmina Dewees, a sister of William Dewees, of Germantown; Elizabeth, who married Heivert Papen; and Garrett, who resided at Cresheim.

After the death of his father the mill was carried on by Claus, who supplied not only Bradford in New York, but the home market at Germantown and Philadelphia. The following letters from Bradford are all that I have been able to discover.

“NEW YORK Aug. 16, 1709.

“FFRD. CLAUSE RITTENHOUSE

“Yours of y^e 6th Instant I recd wth yr. account by wth you give me Cred^t for 12th 4^s 4^d as rec^d of Nicholas Pearse. If you have rec^d no more of him, there is 17^s 3½^d due to you, wth I have ordered N. Pearse to pay you and take your Receipt in full of that amo^t. I have also desired him to pay you what money he can, in part of this printing paper wth you now send, and when I know what he has or can pay you, I shall take care to send you y^e remainder at or before y^e Time of the Quaker Yearly Meeting. I desire you to send me 2 or 3 Ream brown paper and some thick paste board, which is all at present from

“Your ffriend

“WILL BRADFORD.”

"FFRD CLAUSE RITTENHOUSE

"I have rec^d 16 Ream of printing paper from you ; and a Letter at y^e same time. Since that I have rec^d Ten Ream more. Let me know what you have recd. from Nich^s Pearse, and I will order you y^e balance. If you have more of y^e same sort of paper, pray let me have it.

"These are also to acquaint you that I shall want some of y^e large writing paper; pray let [me] know how much you can make. I shall want six or seven Ream. If you want fine Rags, let me know it & I shall send some by Land ; for I must have 6 or 7 Ream of such paper as you made before for me. Pray let me hear from you by y^e next Post, which will oblige

"Your ffriend

"WILL BRADFORD.

"NEW YORK 7th 11, 1709."

The supply of paper from the Rittenhouses, it seems, was regularly forwarded to Bradford both by land and water, and he in turn sent back fine rags in part payment. The experiment of making paper—both writing, printing, brown, and blue paper—as well as pasteboard was a complete success. The business was no doubt remunerative, and in the course of a few years the *second* paper-mill in the American Colonies was erected by another early settler of Germantown named William De Wees, a brother-in-law of Nicholas Rittenhouse. This second mill was built in the year 1710 on the west side of Wissahickon Creek, in that part of Germantown known in early times as *Crefeld*, near the line of the present Montgomery County, then called "The Manor of Springfield." The probability is that De Wees had learned the art of paper-making from the Rittenhouses. In 1713 this mill and a tract of one hundred acres of land were conveyed by De Wees to Claus Rittenhouse and three others, and the recitals in the deed show that the mill was then in full operation. How long he and his associates owned this establishment I do not know, but on a map made in 1746 "Hy. Dewees' Paper Mill" is marked as being at this same place. It is probable that Henry was a son of William De Wees, and that he purchased the mill for himself. This is all that the limits of my essay will allow me to say concerning the second paper-mill in America.

The year 1719 formed a new era in the history of paper-making in America, and in that of our city and State. Until that time the people had no means of acquiring knowledge or general information, except the few books which were issued in Philadelphia or New York or which the more wealthy could import, but on the 22d of December, 1719, Andrew Bradford, a son of William Bradford, established in Philadelphia *The American Weekly Mercury*, the first newspaper ever printed in the British Middle Colonies.¹

The first newspaper in the Colonies was the *Boston News Letter*, printed in 1705 by Bartholomew Green; the second was the *Boston Gazette*, by James Franklin, December 21, 1719; and the third was Bradford's *Mercury*, which was issued the next day.

The paper used by Bradford for his *Mercury* was made at the Rittenhouse mill. Of this there can be no doubt, for it has upon it the well-known water-mark K. R., the initials of the maker's name.

It is not a little remarkable that after the lapse of one hundred and forty-four years a lineal descendant of that same paper-maker is still engaged, in that part of Roxborough called Manayunk, in the same honorable occupation that his ancestor pursued; and further, that, like that ancestor, he too supplies all the paper upon which one of our daily journals is printed. I refer to Mr. Martin Nixon, of the Flat Rock Paper-Mills, as the paper-maker, and to the *Public Ledger* as the journal. As is generally known, the *Ledger* is, and has been since May, 1854, printed upon paper made from straw, and I believe it was the first journal in this country to try that experiment.

Mr. Nixon has communicated some valuable facts on the subject of straw paper which I shall embody in this essay. The manufacture of printing-paper from straw was begun by him and his brothers in 1854, and in 1857 and 1858 extensive improvements upon the French method were intro-

¹ Bishop's "History of American Manufactures," Vol. I. p. 171.

duced by him under the patronage of William M. Swain, Esq., of the *Public Ledger*. By the old process straw was operated upon in open boilers or tanks, and hence no greater heat than 212° F. could be obtained. In 1858 he invented spherical boilers, one of which could hold five tons of straw at a charge. This was patented November 22, 1859, and by its means he was able to produce a heat equal to from 330° to 340° F., and representing a pressure of from one hundred pounds to one hundred and fifteen pounds to the square inch. The usual quantity of straw pulp is eighty per cent. and of rag pulp twenty per cent., but at times the paper has been made from pure straw pulp. With the works in full operation he can make from 2,600,000 pounds to 2,700,000 pounds of paper per annum, which, of *Ledger* size, would be about 93,000 reams, and at present market rates would be worth about \$450,000.

In making this quantity of paper the works consume about 600 tons of rags, 3000 tons of straw, 500 tons of soda ash, 400 tons of bleaching powders, 10,000 bushels of lime, and 2000 tons of coal.

As may readily be seen, there is quite a contrast between the ancestor and his descendant, both as to the process employed in the manufacture and the quantity of paper produced!

In the month of May, 1734, Claus Rittenhouse, the second paper-maker in America, died at the age of sixty-eight years. He was born in Holland, June 15, 1666, was a member of the Mennonist meeting at Germantown, and officiated as a minister in that society. He was the grandfather of David Rittenhouse, the American astronomer, who was born April 8, 1732, in a house still standing, near the site of the old paper-mill; David's father, Matthias Rittenhouse, being the youngest son of Nicholas. He left the paper-mill to his oldest son, William, who carried on the business for many years. When *he* died the mill property fell to his son Jacob Rittenhouse, also a paper-maker. Jacob died in 1811, and left the mill to his nephews Enoch and Samuel Rittenhouse; and Enoch, who

became sole owner, and died in the year 1855, devised it to his cousin Peter Rittenhouse, the present owner.

And now my sketch of this pioneer paper-mill of America and of its worthy founders, imperfect as I know it to be, is done. Its merit, if it possess any, is its strict adherence to historical accuracy, and the use in its preparation of entirely original documents.

A particular feature in the sketch, and in keeping with the subject, is the fact that the paper on which it is written was made at the first paper-mill in America, by the first paper-maker and his son, prior to the year 1699.